Assignment #3

1. The request-reply protocol (RRP) can be synchronous and reliable. Explain.

2. What are the primitives of a request-reply protocol? Explain each in detail.

3. Draw the structure of a request-reply message. Explain each field.

4. What should the *doOperation( ),* in request-reply protocol, do to compensate for the possibility of lost messages?

5. What are the impacts due to implementing the request-reply protocol primitives over UDP datagrams?

6. The request-reply protocol accepts the duplicate requests. (   )

7. Describe in detail the different styles of RPC exchange protocols.

8. Write in detail how HTTP is implemented over TCP.

9. Draw the structures of both HTTP request and reply messages.

10. What are the main issues which RPC suffers from?

11. What are the interface definition languages (IDLs) designed to?

12. What are the main choices of implementing the *doOperation( )* method to provide different delivery guarantees? Explain.

13. Compare between different semantics; *Maybe, At-least-once and At-most-once*, with respect to: i) definition, ii) possible failures, and iii) usage.

14. Define the term "*Transparency*" in RPC concept.

15. Explain the idea of remote method invocation (RMI).

16. Compare between RMI operations: i) Stub operation and ii) Skeleton operation.

17. What are the main four required classes to build an RMI?

18. Describe the structure of an interface definition language (IDL).

19. Compare between passing a parameter by value and by reference in CORBA.

20. Describe CORBA language mappings.

21. Give some examples on the services introduced by CORBA.

22. Explain in detail the similarities between RMI and CORBA.

23. Explain in detail the differences between RMI and CORBA.

24. Using flowcharts only, compare between RMI and CORBA.